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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of Kenneth H. Heffner, Charles W. Reed and David M. File

For: Wear-Resistant Electrically Conductive Body

Group Art Unit 1775

Serial No.10/ 662,162

Examiner: Archene Turner

Filed September 12, 2003

Navy Case Number 75463

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RESPONSE TO FINAL OFFICE ACTION MAILED OCTOBER 12, 2006

HONORABLE COMMISSIONER OF PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

Sir:

It is requested that the present amendment be entered in order to place the present patent application in condition for allowance.

Amended independent claim 2 and amended dependent claim 3 are attached. Non-amended dependent claim 4 is also attached.

It is submitted that claimed subject matter of amended independent claim 2 and amended dependent claim 3 is not taught and is not obvious from Dorfman et al. (U.S. 5,786,068).

It is also submitted that claimed subject matter of non-amended dependent claim 4 is not taught and is not obvious from Dorfman et al. (U.S. 5,786,068).

Non-elected claims 1 and 5-7 are also attached.

coating from simultaneously co-deposit metal ions and carbon ions, on slip-rings.

By such simultaneously ion-deposition, contiguous metal-ion-accelerated metal atoms and carbon-ion-accelerated diamond-like carbon atoms produce a unique coating. There is an even distribution of metal atoms and diamond like carbon atoms in the disclosed electrically conductive coating. Such a newly claimed electrically conductive coating is not disclosed and is not obvious from Dorfman et al.

In Dorfman et al., sputtered globs of metal are randomly separated in a diamond-like carbon film. Such randomly distributed metal globs are located in the diamond-like carbon. Dorfman et al. does not teach and does not suggest simultaneously ion deposited, contiguous, metal-ion-accelerated metal atoms and carbon-ion-accelerated diamond-like carbon atoms in a conductive coating on slip-rings.

Dorfman et al. teaches away from metal-ion-accelerated metal atoms and carbon-ion-accelerated diamond-like carbon atoms in a conductive coating. Dorfman et al. teaches use of a sputtered metal, not an ionized metal.

Dorfman et al. does not teach or suggest simultaneously ion-depositing metal-ion-accelerated metal atoms and carbon-ion-accelerated diamond-like carbon atoms, to form a conductive coating. Dorfman et al. does not make a conductive coating of amended claim 2 to be obvious to one of ordinary skill in the relevant art.

Dorfman et al. does not suggest a conductive coating that is on each of a plurality of slip-rings, the conductive coating containing simultaneously ion deposited, contiguous, metal-ion-accelerated metal atoms and carbon-ion-accelerated diamond-like carbon atoms.